

**Terms of reference for an environmental  
impact statement (EIS)**  
*Environmental Protection Act 1994*  
*Saraji East Mining Lease Project*  
*Proposed by BM Alliance Coal Operations Pty Ltd*  
*May 2017*

Prepared by: Impact Assessment and Operational Support Unit, Department of Environment and Heritage Protection

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## Project proponent

The proponent for the project is BM Alliance Coal Operations Pty Ltd (BMA), on behalf of BHP Coal Pty Ltd, QCT Mining Pty Ltd, Mitsubishi Development Pty Ltd, QCT Investment Pty Ltd, BHP Queensland Coal Investments Pty Ltd, QCT Resources Pty Ltd and Umal Consolidated Pty Ltd, also known as the Central Queensland Coal Associates (CQCA) Joint Venture. The Central Queensland Coal Associates is an unincorporated joint venture between BHP Billiton (50 per cent) and Mitsubishi Development Pty Ltd (50 per cent).

## Project overview

BMA proposes to develop the Saraji East Mining Lease Project (the Project), a greenfield single-seam underground mine development on Mining Lease Application (MLA) 70383 commencing from within Mining Lease (ML) 1775. A new infrastructure transport and infrastructure corridor would be constructed on MLA 70383. The Project proposal would also comprise a new Coal Handling and Preparation Plant (CHPP), and associated Mine Infrastructure Area (MIA) and a new rail spur and balloon loop; both of which are proposed to be located on the site of the existing adjacent Saraji Mine.

The Project is located within the Isaac Regional Council Local Government Area (LGA) approximately 30 kilometres (km) north of Dysart and approximately 167km south-west of Mackay in Queensland. The Project is located adjacent to the existing Saraji Mine. The relevant mining tenures are exploration permit for coal (EPC) 837 and EPC 2103, mining lease applications (MLAs) 70459, 70383 and granted mining leases (MLs) 1775, 1782, 1784, and 70328 and 70142.

The proposed mine development being assessed comprises:

- a greenfield underground coal mine to be developed on MLA 70383 commencing from within the Saraji Mine ML 1775
- production of up to seven Mt/yr of product coal for the export market over the 25 to 30 year life of the Project
- a new accommodation facility, if required, to support the construction and operational stages located on MLA 70383. The accommodation facility may consist of a temporary construction village and a separate permanent operation village
- dewatered tailings and reject disposal within spoil on the existing Saraji Mine
- a new MIA located on ML 1775
- a new CHPP located on ML 70142
- a conveyor system to deliver coal from the underground portals to the CHPP and product coal to the rail loading facilities located over both ML 1775 and ML 70142
- run-of-mine (ROM) stockpile and product stockpile pads located on ML 70142
- a new rail spur and balloon loop and signalling system located on ML 70142
- a network of gas drainage bores and associated surface infrastructure consisting of gas and water collection networks and access tracks across the underground mine footprint across ML 1775 and MLA 70383
- relocation of the existing Vermont water pipeline and existing 132 kilovolt (kV) powerline into a new infrastructure and transport corridor to the eastern boundary of MLA 70383 and northern boundary of MLA 70459.

### ***Environmental Protection Act 1994 (Queensland)***

On 24 May 2013 BMA applied for a new site-specific environmental authority (EA) for coal mining with the former Department of Environment and Resource Management (DERM), now Department of Environment and Heritage Protection (EHP). On 25 June 2013, DERM issued a Notice of Information Request for the EA application, requiring an assessment by environmental impact statement (EIS).

### ***Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)***

The proposed project was referred on 5 October 2016 to the Australian Government Department of the Environment and Energy (EPBC 2016/7791). On 18 November 2016, the Department of the Environment and Energy determined the proposed project to be a controlled action under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The controlling provisions are sections 18 and 18A (Listed threatened species and communities) and 24D and 24E (a water resource, in relation to coal seam gas development and large coal mining development).

The project will be assessed under the bilateral agreement between the Commonwealth and the State of Queensland (section 45 of the EPBC Act) using the EIS prepared under the *Environmental Protection Act 1994* (EP Act).

## Part A About these terms of reference

### 1 *Environmental Protection Act 1994*

This section outlines the project assessment information requirements of the EP Act administered by the EHP. While these terms of reference (TOR) seek information corresponding to these requirements, proponents should confirm that the EIS addresses all relevant statutory requirements and also meets the information requirements of other local, state and Commonwealth regulatory authorities.

These TOR outline the information requirements for the resource project being assessed under the EIS process in chapter 3, part 1, of the EP Act.

The key information requirements of the EP Act that must be addressed in the EIS are:

- the requirements of section 40 of the EP Act, which specifies the purpose of an EIS and of the EIS process
- sections 125, 126 and 126A which set out the general information requirements for applications for an EA
- schedule 1 of the Environmental Protection Regulation 2008 (EP Regulation)—matters to be addressed by assessment under the bilateral agreement between the Commonwealth and the State of Queensland
- the environmental objectives and performance outcomes specified in schedule 5, part 3, table 1 of the EP Regulation.

The EIS must provide all the information needed to enable the issuing of an EA for the project as set out in these TOR in conjunction with the guidance material at: <http://www.ehp.qld.gov.au/management/impact-assessment/eis-processes/eis-tor-support-guidelines.html>.

Chapter 4 of the EP Regulation prescribes the regulatory requirements with which the administering authority is required to comply for making environmental management decisions—including the issuing of an EA. To facilitate this, EHP has developed a set of model conditions for resource projects, which should form the basis for proposed draft EA conditions and general environmental protection commitments in the EIS<sup>1</sup>. The EIS should describe impact mitigation measures in the context of these model conditions.

### 2 Accredited process for controlled actions under Commonwealth<sup>2</sup> legislation

The EIS must state the controlling provisions for the project and describe the particular aspects of the environment leading to the controlled action declaration under the EPBC Act. The EIS must address relevant impacts on the 'controlling provisions' and all matters relating to them and provide enough information about the projects and its impacts to allow the Australian Government Environment Minister to make an informed decision on whether to approve the project under the EPBC Act.

The assessment of the potential impacts, mitigation measures and any offsets for residual significant impacts must be dealt with in a stand-alone section of the EIS that fully addresses the matters relevant to the controlling provisions. Requirements for MNES are set out in Appendix 2 (Matters of national environmental significance of the TOR). The information provided on these matters must be consistent with the relevant aspects of other sections in the EIS, for example Section 8.1 Land, flora and fauna.

The EIS must also address the matters prescribed in section 6 and in Schedule 1 of the EP Regulation.

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<sup>1</sup> <http://www.ehp.qld.gov.au/land/mining/guidelines.html> and <http://www.ehp.qld.gov.au/assets/documents/regulation/rs-gl-model-mining-conditions.pdf>

<sup>2</sup> This section applies where the proponent has received confirmation from the Australian Government Environmental Agency that the project is a controlled action under the EPBC Act and that it is to be assessed under an EIS accredited under the bilateral agreement.

## 3 EIS guidelines

EHP has developed an Information guideline for an EIS under the EP Act which is available from EHP's website<sup>3</sup>. The guideline is a compilation of relevant technical guidance material, arranged following the subject headings in the TOR. The guideline is intended for use as a companion to the TOR and to help EIS project proponents to anticipate and plan the investigative work needed to successfully prepare an EIS under the EP Act. Additional subject-specific guidelines are referenced throughout the TOR and a list of these policies and guidelines provided in Appendix 1.

## Part B Content of the EIS

### 1 General approach

- 1.1 For the purposes of the EIS process, 'environment' is defined in section 8 of the EP Act.
- 1.2 The EIS should give priority to the critical matters associated with the project (specified in section 7).
- 1.3 The detail in which the EIS deals with matters relevant to the project should be proportional to the scale of the impacts on environmental values. When determining the scale of an impact, consider its intensity, duration, cumulative effect, irreversibility, the risk of environmental harm, management strategies and offsets provisions.

### 2 Mandatory requirements of an EIS

- 2.1 Describe the project including all aspects subject to this assessment. Provide details of the proponent of the project, including details of any joint venture partners. The project description should include all on and off lease activities relevant to the project including construction, operation and decommissioning activities. If the delivery of the project is to be staged, the nature and timing of the stages should be fully described.
- 2.2 For all the relevant matters, the EIS must identify and describe the environmental values that must be protected, including, as per section 125 (l)(i) of the EP Act:
  - description of the environmental values likely to be affected by each activity
  - details of any emissions or releases likely to be generated by each activity
  - a description of the risk and likely magnitude of impacts on the environmental values
  - details of the management practices proposed to be implemented to prevent or minimise adverse impacts
  - details of how the land the subject of the application will be rehabilitated after each activity ceasesEnvironmental values are specified in the EP Act, the EP Regulation, environmental protection policies (EPPs) and relevant guidelines<sup>4</sup>.
- 2.3 The assessment should cover both the short and long-term scenarios and state whether any relevant impacts are likely to be irreversible.
- 2.4 Provide all available baseline information relevant to the environmental risks of the project. Provide details about the quality of the information provided, in particular: the source of the information; how recent the information is; how the reliability of the information was tested; and any uncertainties in the information.
- 2.5 Demonstrate how the construction, operation and decommissioning (to the extent known) of the project would be consistent with best practice environmental management. In general, the preferred hierarchy for

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<sup>3</sup> <http://www.ehp.qld.gov.au/management/impact-assessment/eis-processes/eis-tor-support-guidelines>

<sup>4</sup> For example, the Queensland Water Quality Guidelines and the Australian and New Zealand Guidelines for Fresh and Marine Water Quality

managing likely adverse impacts is: (a) to avoid; (b) to minimise or mitigate; once (a) and (b) have been applied (c) if necessary and possible, to offset. Management of impacts should be tailored to the management hierarchy relevant to the particular EPP for that value or matter. Where relevant, mitigation strategies should be described in the context of EHP model conditions.

- 2.6 Provide detailed strategies in regard to all critical matters for the protection, or enhancement as desirable, of all relevant environmental values in terms of outcomes and possible conditions that can be measured and audited. The EIS is to be consistent, and in accordance with, relevant policies, standards and guidelines in place that exist at the time of its delivery.
- 2.7 Impact minimisation measures should include ongoing monitoring and proposals for an adaptive management approach, as relevant, based on monitoring. The proposed measures should give confidence that, based on current technologies, the impacts can be effectively minimised over the long-term.
- 2.8 Present feasible alternatives of the project's configuration (including individual elements) that may improve environmental outcomes. Discuss the consequences of not proceeding with the project.

For unproven elements of a resource extraction or processing process, technology or activity, identify and describe any leading practice environmental management, where available.

### 3 Requirements of an EIS

- 3.1 The assessment and supporting information should be sufficient for the administering authority to decide whether an approval should be granted. Where applicable, sufficient information should be included to enable approval conditions, such as the existing model EA conditions, to be utilised.
- 3.2 To the extent of the information available, the assessment should endeavour to predict the cumulative impact<sup>5</sup> of the project on environmental values over time and in combination with impacts created by the activities of other adjacent and upstream and downstream developments and landholders—as detected by baseline monitoring. This will inform the decision on the EIS and the setting of conditions. The absence of a comprehensive cumulative impacts analysis need not be fatal to the project. The EIS should also outline ways in which the cumulative impact assessment and management could subsequently be progressed further on a collective basis.
- 3.3 Include a consolidated description of all the proponent's commitments to implement management measures (including monitoring programs). Should the project proceed, these should be able to be carried over into the approval conditions as relevant.
- 3.4 Provide all geographical coordinates throughout the EIS in latitude and longitude against the Geocentric Datum of Australia 1994 (GDA94).
- 3.5 An appropriate public consultation program is essential to the impact assessment process. The proponent should consult with local, Queensland and Australian government authorities, and potentially affected local communities.
- 3.6 The EIS should describe the consultation that has taken place and how the responses from the community and agencies have been incorporated into the design and outcomes of the project. Requirements for the public consultation plan are listed in the document '*Preparing an environmental impact statement: Guideline for proponents*'.
- 3.7 Include, as an appendix, a public consultation report. The report should detail how the public consultation plan was implemented including the results.

### 4 Executive summary

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<sup>5</sup> Cumulative impact is defined as 'combined impacts from all relevant sources (developments and other activities in the area)'.

- 4.1 The executive summary should describe the project and convey the most important and preferred aspects and environmental management options relating to the project in a concise and readable form. It should use plain English, avoid jargon, be written as a stand-alone document and be structured to follow the EIS. It should be easy to reproduce and distribute on request to those who may not wish to read or purchase the whole EIS.

## 5 Introduction

- 5.1 Clearly explain the function of the EIS, why it has been prepared and what it sets out to achieve. Include an overview of the structure of the document.

### Project proponent

- 5.2 Describe the proponent's experience, including:
- the designated proponent's full name, postal address and Australian Business Number, if relevant (including details of any joint venture partners)
  - the nature and extent of business activities
  - environmental record, including a list of any breach of relevant environmental laws during the previous 10 years
  - the proponent's environmental, health, safety and community policies.

### The environmental impact assessment process

- 5.3 The EIS should provide an outline of the environmental impact assessment process, including the role of the administering authority in the decision making process for the EIS. The information in this section is required to ensure readers are informed of the process to be followed and are aware of any opportunities for input and participation.
- 5.4 Inform the reader how and when properly made public submissions on the EIS will be addressed and taken into account in the decision-making process.

### Project approvals process

- 5.5 Provide an outline of the approvals required and approvals to be amended to enable the project to be constructed and operated. Explain how the environmental impact assessment process (and the EIS itself) informs the issue of the leases/licences/permits/consents required by the proponent before construction can commence. Provide a flow chart indicating the key approvals and opportunities for public comment. Guidance on typical associated approvals can be accessed from the Coordinator-General's website<sup>6</sup>. For any quarry material that is needed for construction use EHP's *EIS information guideline – Quarry materials*<sup>7</sup>.

## 6 Project description

### Proposed development

- 6.1 The EIS must describe and illustrate at least the following specific information about the proposed project:
- the project's title
  - the project, its objectives, and expected capital expenditure
  - rationale for the project

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<sup>6</sup> [www.dsdp.qld.gov.au/coordinator-general](http://www.dsdp.qld.gov.au/coordinator-general)

<sup>7</sup> <http://www.ehp.qld.gov.au/management/impact-assessment/eis-processes/documents/generic-tor-supporting-guidelines/tor-guideline-quarry-material.docx>



- the nature and scale of activities to be undertaken and whether it is a greenfield or brownfield site
- the regional and local context of the project's footprint (with maps at suitable scales)
- relationship to other coordinated projects and other major projects (of which the proponent should reasonably be aware)
- the workforce numbers to be employed by the project during its various phases, where personnel would be accommodated and, where relevant, the likely recruitment and rostering arrangements to be adopted
- the proposed construction staging and likely schedule of works.

## Site description

- 6.2 Provide real property descriptions of the project land and adjacent properties; any easements; any underlying resource tenures; and identification number of any resource activity lease for the project land that is subject to application. Key transport, state-controlled roads, rail, air, port/sea and other infrastructure in the region relevant to the project and to the site should be described and mapped.
- 6.3 Describe and illustrate the topography of the project site and surrounding area, and highlight any significant features shown on the maps. Maps should have contours at suitable increments relevant to the scale, location, potential impacts and type of project, shown with respect to Australian height datum (AHD) and drafted to GDA94.
- 6.4 Where appropriate, describe and map in plan and cross-sections the geology and landforms, including catchments, of the project area. Show geological structures, such as aquifers, faults and economic resources that could have an influence on, or be influenced by, the project's activities.
- 6.5 Where appropriate, describe, map and illustrate soil types and profiles of the project area at a scale relevant to the proposed project. Identify soils that would require particular management due to wetness, erosivity, depth, acidity, salinity or other feature (including acid sulfate soils).
- 6.6 Describe with concept and layout plans, requirements for constructing, upgrading or relocating all infrastructure associated with the project. Detail the locations of any necessary infrastructure easements on plans of suitable scaling, including infrastructure such as roads, rail (and the rail corridor), level crossings, conveyors, bridges, tracks and pathways, dams and weirs, bore fields, power lines and other cables, wireless technology (such as microwave telecommunications) and pipelines for any services, whether underground or above. Demonstrate environmental and economic factors were considered in the choice and location of infrastructure and identify where the MLA includes works within one km of any electricity infrastructure.

## Climate

- 6.6 Describe the site's climate patterns that are relevant to the environmental assessment, with particular regard to discharges to water and air and the propagation of noise. Climate information should be presented in a statistical form including long-term averages and extreme values, as necessary.

## Proposed construction and operations

- 6.7 Describe the following information about the proposal:
- existing infrastructure and easements on the potentially affected land
  - existing infrastructure and mining works of the adjacent mining lease where these existing works will be shared across both the existing and proposed project
  - the proposed extractive and processing methods, associated equipment and techniques
  - the sequencing and staging of activities
  - the capacity of high-impact plant and equipment, their chemical and physical processes, and chemicals or hazardous materials to be used
  - the known locations of new or altered works and structures and infrastructure necessary for the project at all stages of its development, whether on or off the project lease(s) or rights of way

- all environmentally relevant activities proposed to be undertaken, as described in schedule 2 and schedule 2A of the EP Regulation, including a detailed description of any existing and proposed sewage infrastructure
- any new or expanded quarry and screening operations (e.g. from off-site locations) required to service the project.

## 7 Identification of critical matters

- 7.1 This section sets out the scope of critical matters that should be given detailed treatment in the EIS. A critical matter is an aspect of the proposal that has one or more of the following characteristics:
- a high or medium probability of causing serious or material environmental harm or a high probability of causing an environmental nuisance<sup>8</sup>
  - considered important by the administering authority and/or there is a public perception that an activity has the potential to cause serious or material environmental harm or an environmental nuisance, or, the activity has been the subject of extensive media coverage
  - identified (in a referral decision) as a specific controlling provision under the EPBC Act.
- 7.2 The following critical matters have been identified for the proposed Saraji East Mining Lease Project:
- land, flora and fauna and identified matters of state environmental significance (MSES) under the State Planning Policy (July 2014) (section 8.1)
  - water quantity and quality (section 8.3)
  - water resources (section 8.4)
  - flooding/ regulated dams (section 8.5).
- 7.3 Include details for matters of national environmental significance (MNES):
- The Australian Government Environment Minister has determined that the project has impacts on MNES (EPBC 2016/7791). The assessment of the potential impacts, mitigation measures and any offsets for residual impacts must be dealt with in a stand-alone section of the EIS that fully addresses the matters relevant to the controlling provisions. Refer to Appendix 2 for detailed MNES-TOR requirements and EPBC Act controlling provisions. The information provided on these matters must be consistent with the relevant aspects of other sections in the EIS, for example Section 8.1 Land, flora and fauna.

## 8 Assessment of critical and routine matters

The following subsections list the critical and routine matters for this project, with (where applicable) a reference to the objectives defined in the EP Regulation. Where applicable, refer to the objective of the EP Regulation (section 3) to ensure ecologically sustainable development is achieved.

For each matter identified below, the level of detail should be proportional to the scale of impacts. As a minimum, the proponent should supply sufficient information that confirms the risks/impacts are not significant.

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<sup>8</sup> 'Material environmental harm', 'serious environmental harm' and 'environmental nuisance' are defined in Part 3, sections 15, 16 and 17 of the *Environmental Protection Act 1994*.

## 8.1 Land, flora and fauna (critical matter)

### Objectives and performance outcomes

The environmental objectives to be met under the EP Act are that the:

- activity is operated in a way that protects the environmental values of land including soils, subsoils, landforms and associated flora and fauna
- choice of the site, at which the activity is to be carried out, minimises serious environmental harm on areas of high conservation value and special significance and sensitive land uses at adjacent places
- location for the activity on a site protects all environmental values relevant to adjacent sensitive use
- design of the facility permits the operation of the site, at which the activity is to be carried out, in accordance with best practice environmental management.

The performance outcomes corresponding to these objectives are in Schedule 5, Tables 1 and 2 of the EP Regulation. The proponent should supply sufficient evidence (including through studies and proposed management measures) that show these outcomes can be achieved.

### Information requirements—land use

- 8.1.1 Describe potential impacts of the proposed land uses taking into consideration the proposed measures that would be used to avoid or minimise impacts. The impact prediction must address:
- landscape (including visual amenity) and land uses in and around the project area, referring to regional plans and local government planning schemes
  - any existing mining, petroleum, geothermal and greenhouse gas storage tenures overlying or adjacent to the project site, and any to be applied for as part of this project any infrastructure proposed to be located within, or which may have impacts on, the Stock Route Network.
- 8.1.2 Address the requirements of the *Regional Planning Interests Act 2014*, including the requirements of the *Mackay, Isaac and Whitsunday Regional Plan (February 2012)*.
- 8.1.3 Assess and provide comprehensive surface subsidence predictions using tools or techniques that enable the location, extent and scale of subsidence, and its effect, over time, on surface landforms and hydrology to be understood. Propose detailed mitigation measures for any significant impacts that would result from subsidence<sup>9</sup>, including any potential and/or significant impacts on the Eungella Pipeline Southern Extension.
- 8.1.4 Detail any known or potential sources of contaminated land that could be impacted by the project. Describe how any proposed land use may result in land becoming contaminated.
- 8.1.5 Identify existing or potential native title rights and interests possibly impacted by the project and the potential for managing those impacts by an Indigenous Land Use Agreement or other measure.
- 8.1.6 Undertake an analysis of agricultural values at the site using the Queensland Agricultural Land Audit. The analysis on the agricultural land in the project area should include an identification of impacts on agricultural land including constraints to the expansion of existing and potential agricultural land uses. Confirm the coexistence of the project with agricultural land uses.

### Information requirements—rehabilitation

- 8.1.7 The EIS should provide information based on relevant guidelines, current best practice approaches and legislative requirements about the strategies and methods to be implemented for progressive and final rehabilitation of the environment disturbed by the project and decommissioning.
- 8.1.8 Develop a rehabilitation strategy that demonstrates how the site will be rehabilitated progressively over time as operations progress, including the timing for successfully achieving the rehabilitation goals<sup>10</sup>. Minimise the amount of land disturbed at any one time, and minimise the residual loss of land and water

<sup>9</sup> [http://www.environment.gov.au/system/files/resources/e9b69ac4-647c-4bbc-84db-83642227ab0d/files/background-review-subsidence\\_0.pdf](http://www.environment.gov.au/system/files/resources/e9b69ac4-647c-4bbc-84db-83642227ab0d/files/background-review-subsidence_0.pdf)

<sup>10</sup> <https://publications.qld.gov.au/dataset/rehabilitation-requirements-for-mining-resource-activities-em1122>

bodies with ecological or productive value. The rehabilitation strategy should include the expected final topography of all disturbed areas and describe the proposed final land uses and detail any impacts of the proposed project on progressive rehabilitation of the adjacent currently operating Saraji Coal Mine, with particular consideration for areas alongside watercourses and creek diversions. The goals and timing of the progressive rehabilitation strategy are to be presented detailing the milestones that would be met and when during the progressive rehabilitation of the project site, and how completion requirements would be measured, for the life of the project.

- 8.1.9 Detailed description of the topsoil resource on site and how topsoil storage will be quantitatively and qualitatively managed for the life of the project to prevent topsoil loss from any disturbance areas and to ensure successful revegetation and rehabilitation. The description must include a progressive inventory of topsoil and detail how topsoil will be stripped, salvaged and stockpiled and used in progressive rehabilitation.
- 8.1.10 Describe and illustrate where subsidence areas (if applicable), disturbed areas and uncompacted overburden and workings at the end of operations would lie in relation to flood levels up to and including the 'probable maximum flood level' based on the Bureau of Meteorology's 'probable maximum precipitation' forecast for the locality.
- 8.1.11 Describe rehabilitation success criteria that would be used to measure progress and completion.
- 8.1.12 Notwithstanding that management techniques may improve over the life of the project, and legislative requirements may change, the EIS needs to give confidence that all potential high-impact elements of the project (e.g. spoil dumps, tailings and water management dams, creek diversions/crossings, subsidence areas, etc.) are capable of being managed and rehabilitated to achieve acceptable land use capabilities/suitability, to be safe, stable, non-polluting and self-sustaining and to prevent upstream and downstream surface and groundwater contamination. Describe the final land form and land use of the proposed mine site and demonstrate how progressive rehabilitation throughout the life of the project will be delivered to successfully achieve the final land form and use.

#### **Information requirements—flora and fauna**

- 8.1.13 Describe the likely impacts on the biodiversity and natural environmental values of affected areas arising from the construction, operation and eventual decommissioning of the project (where known). Take into account any proposed avoidance and/or mitigation measures. The assessment should include, but not be limited to, the following key elements:
- matters of state environmental significance and national environmental significance
  - terrestrial and aquatic ecosystems (including groundwater-dependent ecosystems) and their interaction
  - biological diversity including listed flora and fauna species and regional ecosystems
  - the integrity of ecological processes, including habitats of threatened, near-threatened or special least-concern species
  - connectivity of habitats and ecosystems
  - the integrity of landscapes and places, including wilderness and similar natural places
  - chronic, low-level exposure to contaminants or the bio-accumulation of contaminants
  - impacts on terrestrial and aquatic ecosystems and associated native flora and fauna due to wastes at the site, particularly those related to any form of toxicants in supernatant water of any tailings storage facility
  - impact of waterway barriers on fish passage in all waterways mapped on the Queensland Waterways for Waterway Barrier Works spatial data layer.

- 8.1.14 Describe any actions of the project that require an authority under the *Nature Conservation Act 1992*, and/or would be assessable development for the purposes of the *Vegetation Management Act 1999*<sup>11</sup>, the *Fisheries Act 1994* and the *Planning Act 2016*.
- 8.1.15 Propose practical measures for protecting or enhancing natural values, and assess how the nominated quantitative indicators and standards may be achieved for nature conservation management. In particular, address measures to protect or preserve any listed threatened, near-threatened or special least concern species.
- 8.1.16 Specifically address any obligations imposed by State or Commonwealth legislation or policy or international treaty obligations, such as the China–Australia Migratory Bird Agreement, Japan–Australia Migratory Bird Agreement, or Republic of Korea–Australia Migratory Bird Agreement.
- 8.1.17 Assess the need for buffer zones and the retention, rehabilitation or planting of movement corridors, and propose measures that would avoid the need for waterway barriers, or propose measures to mitigate the impacts of their construction and operation. The measures proposed for the progressive rehabilitation of disturbed areas should include rehabilitation success criteria in relation to natural values that would be used to measure the progress.
- 8.1.18 Describe how the achievement of the objectives would be monitored and audited, and how corrective actions would be managed. Proposals for the rehabilitation of disturbed areas should incorporate, where appropriate, provision of nest hollows and ground litter.
- 8.1.19 Assess the role of buffer zones in maintaining and enhancing riparian vegetation to enhance water quality and habitat connectivity.

#### Information requirements—offsets

Proposed offsets that are consistent with the requirements set out in any applicable State and Commonwealth legislation or policy, for example:

- 8.1.20 Where a significant residual impact will occur on a prescribed environmental matter as outlined in the Environmental Offsets Regulation 2014, the offset proposal(s) must be consistent with the requirements of Queensland’s *Environmental Offsets Act 2014* and the latest version of the Queensland Environmental Offsets Policy<sup>12</sup>.
- 8.1.21 Where Commonwealth offset policy requires an offset for residual significant impacts on a MNES, the offset proposal(s) must be consistent with the requirements of the EPBC Act Environmental Offsets Policy (October 2012), the *Offsets Assessment Guide* and relevant guidelines<sup>13</sup> (refer also to Appendix 2 of this TOR).

## 8.2 Biosecurity

### Objective

The construction, operation and decommissioning of the project should aim to ensure:

- the introduction and spread of weeds, pests and disease, pathogens and contaminants are avoided and minimised
- existing weeds and pests are controlled, including biosecurity threats and their management
- that performance outcomes correspond to the relevant policies, legislation and guidelines and that sufficient evidence is supplied (including through studies and proposed management measures) that show these outcomes can be achieved.

<sup>11</sup> This is notwithstanding that the *Vegetation Management Act 1999* does not apply to mining projects. Refer also to [www.nrm.qld.gov.au/vegetation/](http://www.nrm.qld.gov.au/vegetation/)

<sup>12</sup> <https://www.qld.gov.au/environment/pollution/management/offsets/>

<sup>13</sup> <http://www.environment.gov.au/epbc/publications/epbc-act-environmental-offsets-policy>

### Information requirements

- 8.2.1 Propose detailed measures to remove, control and limit the spread of pests, weeds disease, pathogens and contaminants on the project site and adjacent areas, particularly declared plants and animals, under Queensland's *Biosecurity Act 2014*, the Commonwealth *Biosecurity Act 2015* and weeds of national significance (WONS).
- 8.2.2 Weed and pest animal management measures should be aligned with local government pest management priorities.
- 8.2.3 Detail a monitoring program that would audit the success of measures, whether objectives have been met, and describe corrective actions to be used if monitoring shows that objectives are not being met.

## 8.3 Water quality (critical matter)

### Objective and performance outcomes

The environmental objectives to be met under the EP Act are that the activity (project) be operated in a way that:

- protects the environmental values of waters
- protects the environmental values of wetlands(including soaks and springs) and groundwater-dependent ecosystems
- protects the environmental values of groundwater and any associated surface ecological systems.

The performance outcomes corresponding to this objective are in Schedule 5, Table 1 of the EP Regulation. The proponent should supply sufficient evidence (including through studies and proposed management measures) that show these outcomes can be achieved.

### Information requirements

- 8.3.1 Identify the environmental values of groundwater and surface waters within the project area and immediately downstream that may be affected by the project with reference to the Environmental Protection (Water) Policy 2009 and section 9 the EP Act, including any human uses of the water and any cultural values, as well as the *EIS information guideline - Water*<sup>14</sup>.
- 8.3.2 Define the relevant water quality objectives applicable to the environmental values and demonstrate how these will be met by the project during construction, operation and following completion.
- 8.3.3 Detail the chemical, physical and biological characteristics of surface waters and groundwater within the area that may be affected by the project during construction, operation and following completion consistent with the *EIS information guideline – Water*<sup>14</sup>.
- 8.3.4 Identify the quantity, quality, location and timing<sup>15</sup> of all potential and/or proposed releases of contaminants (such as controlled water releases to surface water streams) from water and waste water from the project, whether as point sources (including controlled or uncontrolled discharges, stormwater run-off from regulated structures or other dams and sediment basins) or diffuse sources (such as seepage from waste rock dumps or irrigation to land of treated sewage effluent).
- 8.3.5 For any sewage treatment plant, whether existing or proposed, detail the waste water management for the life of the project<sup>16</sup>.
- 8.3.6 Assess the likely impact of any releases on all relevant environmental values of the receiving environment and the quality and quantity of receiving waters taking into consideration the characteristics of the release as described above, the quality and quantity of receiving waters, and the assimilative capacity of the receiving environment.

<sup>14</sup> <http://www.ehp.qld.gov.au/management/impact-assessment/eis-processes/documents/generic-tor-supporting-guidelines/tor-guideline-water.docx>

<sup>15</sup> Duration and timing are important aspects of the risk characteristics that affect the impacts of mine and CSG water releases; e.g. for how long will water be released in total and when will it occur with respect to existing 'natural' flows

<sup>16</sup> Department of Environment and Heritage Protection, 2014 – Guideline: Application requirements for activities with impacts to land

- 8.3.7 Describe how the objectives would be achieved, monitored and audited, and how corrective actions would be managed. For example provide measurable criteria, standards and/or indicators that will be used to assess the condition of the ecological values and health of surface water environments. Propose corrective actions if objectives cannot be met.

## 8.4 Water resources (critical matter)

### Objectives

The construction and operation of the project should aim to meet the following objectives:

- equitable, sustainable and efficient use of water resources
- maintenance of environmental flows, water quality, in-stream habitat diversity, and naturally occurring inputs from riparian zones (including groundwater dependent ecosystems) support the long term maintenance of the ecology of aquatic biotic communities, including stygofauna
- the condition and natural functions of water bodies (e.g. lakes, springs, watercourses and wetlands) are maintained—including the stability of beds and banks of watercourses.

### Information requirements

- 8.4.1 Provide details of any proposed impoundment, extraction, discharge, injection, use or loss of surface water or groundwater. Identify any approval or allocation that would be needed under the *Water Act 2000*.
- 8.4.2 Detail any significant diversion or interception of overland flow (for example from lowering the ground level due to subsidence). Include maps of suitable scale showing the location of diversions and other water-related infrastructure in relation to mining infrastructure.
- 8.4.3 Describe the options for supplying water to the project, and assess any potential consequential impacts in relation to the objectives of any Water Plan and resource operations plan that may apply.
- 8.4.4 Describe present and potential users and uses of water in areas potentially affected by the project, including municipal, agricultural<sup>17</sup>, industrial, recreational and environmental uses of water.
- 8.4.5 Develop hydrological models as necessary to describe the inputs, movements, exchanges and outputs of all significant quantities and resources of surface water and groundwater that may be affected by the project. The models should address the range of climatic conditions that may be experienced at the site, and adequately assess the potential impacts of the project on water resources. The models should include a site water balance. This should enable a description of the project's impacts at the local scale and in a regional context including proposed:
- changes in flow regimes from diversions, water take and discharges
  - alterations to riparian vegetation and bank and channel morphology
  - direct and indirect impacts arising from the development.

All of the above information is to be provided in a mine water management plan, for the life of the project, which details management strategies of mine-affected water, sediment-affected water and drainage from areas not disturbed by mining activities.

### The Independent Expert Scientific Committee (IESC)

- 8.4.6 The EIS must include a specific section responding to the information requirements contained in the IESC's *Information Guidelines for the Independent Expert Scientific Committee advice on coal seam gas and large coal mining development proposals* (Commonwealth of Australia, 2015<sup>18</sup>).

<sup>17</sup> <https://publications.qld.gov.au/dataset/daff-environmental-impact-assessment-companion-guide/resource/7b1825c4-5e42-4cf8-aa2d->

<sup>18</sup> <http://www.iesc.environment.gov.au/publications>

## 8.5 Flooding/regulated dams (critical matter)

### Objectives

The construction and operation of the project should aim to ensure that the risk and potential adverse impacts from flooding are avoided, minimised or mitigated to protect people, property and the environment.

Protecting human life and the environment requires that the standards used for the design, construction, operation, modification and decommissioning of regulated structures mitigate the consequences arising from potential failure or collapse of those structures.

The performance outcomes and critical design requirements corresponding to regulated structures are listed in schedule 5, table 2 of the EP Regulation. The proponent should supply sufficient evidence (including through studies and proposed management measures) to show these performance outcomes can be achieved.

### Information requirements—flooding

- 8.5.1 Describe current flood risk for a range of annual exceedance probabilities up to the probable maximum flood for the project site. Assess (through flood modelling) how the project may potentially change flooding and run-off characteristics (upstream and downstream of the site, where applicable). The assessment should consider all infrastructure and any disturbances associated with the project including regulated structures, dams, levees, subsidence areas, roads and linear infrastructure and all proposed measures to avoid or minimise impacts.
- 8.5.2 Evidence should be provided that the securing of storage containers of hazardous contaminants during flood events meets the requirements of schedule 5, table 2 of the EP Regulation.
- 8.5.3 Assess the project's vulnerabilities to climate change (e.g. changing patterns of rainfall, hydrology, temperature and extreme weather events). Describe possible adaptation strategies (preferred and alternative) based on climate change projections for the project.

### Information requirements—regulated dams

- 8.5.4 Conduct consequence category assessments on regulated structures in accordance with the EHP's *EIS information guideline – Structures which are dams or levees constructed as part of environmentally relevant activities*<sup>19</sup>, and EHP's *Manual for assessing consequence categories and hydraulic performance of structures*<sup>20</sup>.
- 8.5.5 Where project infrastructure comprises dams or other structures for storing potentially hazardous materials, describe how risks associated with dam or storage failure, seepage through the floor, embankments of the dams, and/or with overtopping of the structures will be avoided, minimised or mitigated to protect people, property and the environment.
- 8.5.6 Describe the purpose of all dams or levees proposed on the project site. Show their locations on appropriately scaled plans, maximum embankment heights, and for dams, their maximum volumes. Describe how storage structures and other infrastructure would be sited to avoid or minimise risks from flooding.
- 8.5.7 Regulated structures must comply with the *Manual for assessing consequence categories and hydraulic performance of structures* in accordance with schedule 5, table 2 of the EP Regulation. Undertake a consequence category assessment for each dam or levee, according to the criteria outlined in this manual. The assessments must be undertaken for the three different failure event scenarios described in EHP's manual, i.e. for seepage, overtopping and dam break.
- 8.5.8 Following the consequence category assessment, determine the consequence category ('low, significant, or high') according to table 1 of EHP's *Manual for assessing consequence categories and hydraulic performance of structures* and provide certified copies of the consequence category determination for each of the proposed dams or levees assessed.

<sup>19</sup> <http://www.ehp.qld.gov.au/assets/documents/regulation/era-gl-structures-dams-levees-eras.pdf>

<sup>20</sup> <http://www.ehp.qld.gov.au/assets/documents/regulation/era-mn-assessing-consequence-hydraulic-performance.pdf>



- 8.5.9 List hazards and safety risks associated with flooding, including safety risks to persons, and impacts of flooding on dams, levees and/or associated infrastructure located within or outside the project area.

## 8.6 Air

### Objectives and performance outcomes

The environmental objective to be met under the EP Act is that the activity will be operated in a way that protects the environmental values of air.

The performance outcomes corresponding to this objective are in Schedule 5, Table 1 of the EP Regulation. The proponent should supply sufficient evidence (including through studies and proposed management measures) that show these outcomes can be achieved.

### Information requirements

- 8.6.1 Fully describe the environmental values and characteristics of air (through an emissions inventory) of the contaminants or materials released when carrying out the activity (point source and fugitive emissions). Emissions (point source and fugitive) during construction, commissioning, upset conditions, operation and closure should be described.
- 8.6.2 Predict the impacts of the releases from the activity on environmental values of the receiving environment using recognised quality assured methods. The description of impacts should take into consideration the assimilative capacity of the receiving environment and the practices and procedures that would be used to avoid or minimise impacts. The impact prediction must:
- address residual impacts on the environmental values (including appropriate indicators and air quality objectives) of the air receiving environment, also with reference to sensitive receptors<sup>21</sup>, using recognised quality assured methods. This should include all relevant values potentially impacted by the activity, under the EP Act, EP Regulation and Environmental Protection (Air) Policy 2008 (EPP (Air))
  - address the cumulative impact of the release with other known releases of contaminants, materials or wastes associated with existing development and possible future development (as described by approved plans and existing project approvals) for the life of the project, including the proposed additional coal handling and preparation plant proposed to be located on the adjacent Saraji Coal Mine site
  - quantify the human health risk and amenity impacts associated with emissions from the project for all contaminants whether or not they are covered by the National Environmental Protection (Ambient Air Quality) Measure or the EPP (Air)
- 8.6.3 Describe the proposed mitigation measures and how the proposed activity will be consistent with best practice environmental management. Where a government plan is relevant to the activity or site where the activity is proposed, describe the activity's consistency with that plan.
- 8.6.4 Describe how the objectives would be achieved, monitored, audited and reported, and how corrective actions would be managed for the life of the project.

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<sup>21</sup> For example, the locations of existing residences, places of work, schools, etc, agricultural or ecologically significant areas/species that could be impacted.

## 8.7 Noise and vibration

### Objective and performance outcomes

The environmental objective to be met under the EP Act is that the activity will be operated in a way that protects the environmental values of the acoustic environment.

The performance outcomes corresponding to these objectives are in Schedule 5, Table 1 of the EP Regulation. The proponent should supply sufficient evidence (including through studies and proposed management measures) that show these outcomes can be achieved.

### Information requirements

- 8.7.1 Fully describe the environmental values and characteristics of the noise and vibration sources that would be emitted when carrying out the activity (point source and general emissions)<sup>22</sup>. Noise and vibration emissions (including fugitive sources) that may occur during construction, commissioning, upset conditions, operation and closure should be described.
- 8.7.2 Predict the impacts of the noise and vibration emissions from the activity on the environmental values of the receiving environment, with reference to sensitive receptors<sup>23</sup>, using recognised quality assured methods. Taking into account the practices and procedures that would be used to avoid or minimise impacts, the impact prediction must address the:
- activity's consistency with the objectives
  - cumulative impact of the noise and vibration with other emissions of noise associated with existing development and possible future development (as described by approved plans)
  - potential impacts of any low-frequency (<200 Hz) noise emissions
  - impacts from blasting<sup>24</sup>.
- 8.7.3 Describe how the proposed activity would be managed to be consistent with best practice environmental management for the activity. Where a government plan is relevant to the activity, or the site where the activity is proposed, describe the activity's consistency with that plan.
- 8.7.4 Describe how the objectives would be achieved, monitored and audited, and how corrective actions would be managed.

## 8.8 Waste management

### Objective and performance outcomes

The environmental objective to be met under the EP Act is that any waste transported, generated, or received as part of carrying out the activity is managed in a way that protects all environmental values.

The performance outcomes corresponding to these objectives are in Schedule 5, Table 1 of the EP Regulation. The proponent should supply sufficient evidence (including through studies and proposed management measures) that show these outcomes can be achieved.

### Information requirements

- 8.8.1 Conduct impact assessment in accordance with the EHP's *EIS information guidelines—Waste management*. Describe all the expected significant waste streams from the proposed project activities (typically these would include waste rock, tailings and coarse rejects from mining activities, including waste water, degassing, dewatering, regulated waste and blasting waste), during the construction, operational, rehabilitation and decommissioning phases of the project.

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<sup>22</sup> <http://www.ehp.qld.gov.au/management/impact-assessment/eis-processes/documents/generic-tor-supporting-guidelines/tor-guideline-noise-vibration.docx>

<sup>23</sup> For example, the locations of existing residences, places of work, schools, etc, agricultural or ecologically significant areas/species that could be impacted

<sup>24</sup> <http://www.ehp.qld.gov.au/management/impact-assessment/eis-processes/documents/generic-tor-supporting-guidelines/tor-guideline-noise-vibration.docx>

- 8.8.2 Describe the quantity, form (liquid, solid, gas), hazard, and toxicity of each waste type, as well as any attributes that may affect its likelihood of dispersal in the environment, as well the associated risk of causing environmental harm.
- 8.8.3 Define and describe the objectives and practical measures for protecting or enhancing environmental values from impacts by wastes.
- 8.8.4 Assess and describe the proposed management measures and disposal methods against the preferred waste management hierarchy, namely: avoid and reduce waste generation; cleaner production; reuse; recycle; reprocess and reclaim; waste to energy; treatment; disposal. This includes the generation and storage of waste
- 8.8.5 Describe how nominated quantitative standards and indicators may be achieved for waste management, and how the achievement of the objectives would be monitored, audited and managed.
- 8.8.6 Detail waste management planning for the proposed project especially how these concepts have been applied to prevent or minimise environmental impacts due to waste at each stage of the project.
- 8.8.7 Provide details on natural resource use efficiency (such as energy and water), integrated processing design, and any co-generation of power and by-product reuse as shown in a material/energy flow analysis.
- 8.8.8 Describe how the project would achieve natural resource use efficiency (such as minimum use of energy and water, and minimum footprint on land), integrated processing design, co-generation of power and by-product reuse as shown in a material/energy flow analysis.

## 8.9 Cultural heritage

### Objective

The construction and operation of the project should aim to ensure that the nature and scale of the project does not compromise the cultural heritage significance of a heritage place or heritage area.

### Information requirements

- 8.9.1 Undertake research/studies as required under the *Aboriginal Cultural Heritage Act 2003* (ACH Act) and describe impacts on Indigenous cultural heritage, taking into account the practices and procedures that would be used to avoid or minimise impacts. Develop a Cultural Heritage Management Plan in accordance with the requirements of the ACH Act.
- 8.9.2 For non-Indigenous historical heritage, undertake a study of, and describe, the known and potential historical cultural and landscape heritage values of the area potentially affected by the project. Any such study should be conducted by an appropriately qualified cultural heritage practitioner. Provide strategies to mitigate and manage any negative impacts on non-Indigenous cultural heritage values and enhance any positive impacts.

## 8.10 Social and economic

### Objectives

The construction and operation of the project should aim to:

- avoid or mitigate adverse social and economic impacts arising from the project
- capitalise on opportunities potentially available to affected communities.

### Information requirements – social

- 8.10.1 Conduct a social impact assessment (SIA) in accordance with the Coordinator-General's *Social impact assessment guideline* (July 2013)<sup>25</sup> and the Coordinator-General's *Social impact assessment guideline (draft)* (October, 2016)<sup>26</sup> or the guideline in place at the time of delivery of the SIA.

<sup>25</sup> <http://www.statedevelopment.qld.gov.au/resources/guideline/social-impact-assessment-guideline.pdf>

<sup>26</sup> <http://www.parliament.qld.gov.au/Documents/TableOffice/TabledPapers/2016/5516T2017.pdf>

The SIA should be developed in consultation with the Coordinated Project Delivery Division in the Office of the Coordinator-General (OCG), Department of State Development, and describe the likely social impacts (positive and negative) on affected communities. The proposed mitigation measures are to be discussed.

Should the Strong and Sustainable Resource Communities Bill 2016 (SSRC Bill) be passed, the proponent must meet all requirements of the legislation that apply to the project.

Matters to be considered in the SIA are detailed in Appendix 3 of this TOR.

### Information requirements – economic

- 8.10.2 Identify the economic impacts of the project on the local and regional area and the state. Estimate the costs and benefits and economic impacts of the proposal using both regional impact analysis and cost–benefit analysis. The analysis should be consistent with the Coordinator-General’s *draft Economic impact assessment guideline for coordinated projects* or the guideline in place at the time of delivery of the EIS.

## 8.11 Transport

### Objectives

The construction and operation of the project should aim to:

- maintain the safety and efficiency of all affected transport modes for the project workforce and other transport system users
- assess, avoid and mitigate impacts on the condition of transport infrastructure
- ensure any required works are compatible with existing infrastructure and future transport corridors.

### Information requirements

- 8.11.1 The EIS should include a clear summary of the total transport task for the project, including workforce, inputs and outputs, during the construction and operational phases. Proponents should make appropriate modal choices to ensure transport efficiency and minimise impacts on the community.
- 8.11.2 Present the transport assessment in separate sections for each project affected mode (road, rail, air and sea) as appropriate for each phase of the project. Provide sufficient information to allow an independent assessment of how existing transport infrastructure will be affected by project transport at the local and regional level (e.g. local roads and state-controlled roads).
- 8.11.3 Include details of the adopted assessment methodology:
- for impacts on roads: the road impact assessment report in accordance with the *Guidelines for Assessment of Road Impacts of Development* (Department of Main Roads, 2006<sup>27</sup>), with traffic data in DTMR-suitable formats
  - for impacts on rail level crossings: the Australian Level Crossing Assessment Model.
- 8.11.4 Discuss and recommend how identified impacts will be mitigated so as to meet the above objectives for each transport mode. Mitigation strategies may include works, contributions or management plans strategies that can be documented in a *Road-use Management Plan*<sup>28</sup> and are to be prepared in close consultation with relevant transport authorities (including local government). Strategies should consider those transport authorities’ works program and forward planning, and be in accordance with the relevant methodologies, guidelines and design manuals.
- 8.11.5 Discuss impacts on the delivery of emergency services operations within the project area and any impacts this may have on the nearby community. Outline feasible alternatives and mitigation for these operations if adverse impacts are, or are likely, to occur.

<sup>27</sup> <http://www.tmr.qld.gov.au/business-industry/Technical-standards-publications/Guidelines-for-assessment-of-road-impacts-of-development.aspx>

<sup>28</sup> Contact the Department of Transport and Main Road on [MDP@tmr.qld.gov.au](mailto:MDP@tmr.qld.gov.au)

## 8.12 Hazards and safety

### Objectives

The construction and operation of the project should aim to ensure:

- the risk of, and the adverse impacts from, natural and man-made hazards are avoided, minimised or mitigated to protect people and property
- the community's resilience to natural hazards is maintained or enhanced
- developments involving the storage and handling of hazardous materials are appropriately located, designed and constructed to minimise health and safety risks to communities and individuals and adverse effects on the environment.

### Information requirements

- 8.12.1 Describe the potential risks to people and property that may be associated with the project in the form of a preliminary risk assessment for all components of the project and in accordance with relevant standards. The assessment should include:
- potential hazards, accidents, spillages, fire and abnormal events that may occur during all stages of the project, including estimated probabilities of occurrence
  - hazard analysis and risk assessment in accordance with *AS/NZS ISO 31000:2009 Risk Management—Principles and Guidelines* and with *HB203:2006 Environmental Risk Management Principles and Processes*
  - identifying all hazardous substances to be used, stored, processed or produced and the rate of usage
  - potential wildlife hazards, natural events (e.g. cyclone, storm tide inundation, flooding, bushfire) and implications related to climate change
  - a description of natural hazards that may affect the site and at a minimum the 1% annual exceedance probability (AEP) or 100 year average reoccurrence interval (ARI) level, including mapping of the potential hazard areas at the site
  - how development will avoid or mitigate the risks and how the development siting and layout responds to these hazards to minimise risks to personal safety and assets
  - how the project may potentially affect hazards away from the project site (e.g. changing flooding characteristics).
- 8.12.2 Provide details on the safeguards that would reduce the likelihood and severity of hazards, consequences and risks to persons, within and adjacent to the project area(s). Identify the residual risk following application of mitigation measures. Present an assessment of the overall acceptability of the impacts of the project in light of the residual uncertainties and risk profile.
- 8.12.3 Provide an outline of the proposed integrated emergency management planning procedures (including evacuation plans, if required) for the range of situations identified in the risk assessment developed in this section.
- 8.12.4 Outline any consultation undertaken with the relevant emergency management authorities, including the Local Disaster Management Group.

## 9 Appendices to the EIS

- 9.1 Appendices should provide the complete technical evidence used to develop assertions and findings in the main text of the EIS.
- 9.2 No significant issue or matter should be mentioned for the first time in an appendix—it must be addressed in the main text of the EIS.
- 9.3 Include a table listing the section of the EIS where each requirement of the TOR is addressed.
- 9.4 Include a glossary of terms and a list of acronyms and abbreviations.

## 10 Acronyms and abbreviations

The following acronyms and abbreviations have been used in this document.

Acronym/abbreviation	Definition
ACH Act	<i>Aboriginal Cultural Heritage Act 2003</i>
AHD	Australian height datum
AEP	annual exceedance probability
ARI	average reoccurrence interval
bilateral agreement	an agreement between the Commonwealth and the State of Queensland under section 45 of the <i>Environment Protection and Biodiversity Conservation Act 1999</i> relating to environmental assessment
BMA	BM Alliance Coal Operations Pty Ltd
CHPP	Coal Handling and Preparation Plant
CQCA	Central Queensland Coal Associates
CSG	Coal seam gas
EA	Environmental Authority
EIS	environmental impact statement
EP Act	<i>Environmental Protection Act 1994</i>
EP Regulation	Environmental Protection Regulation 2008
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cwlth)</i>
EPP	Environmental Protection Policy (under the EP Act)
GDA94	Geocentric Datum of Australia 1994
Hz	hertz
IESC	Independent Expert Scientific Committee
kV	kilovolts
km	kilometres
ML	mining lease
MLA	mining lease application
MNES	matters of national environmental significance (under the EPBC Act)
Mt/yr	million tonnes per year
MSES	matters of state environmental significance (under the <i>Environmental Offsets Act 2014</i> )
PER	Public Environment Report
TOR	terms of reference

## Appendix 1 Policies and guidelines

- ANZECC and ARMCANZ, 2000, *Australian and New Zealand guidelines for fresh and marine water quality, Volume 1, The guidelines*, Australian and New Zealand Environment and Conservation Council, Agriculture and Resource Management Council of Australia and New Zealand, [www.environment.gov.au/water/publications/quality/nwqms-guidelines-4-vol1.htm](http://www.environment.gov.au/water/publications/quality/nwqms-guidelines-4-vol1.htm)
- Australian Level Crossing Assessment Model (ALCAM)*, [www.tmr.qld.gov.au/Travel-and-transport/Rail/Level-crossings/ALCAM.aspx](http://www.tmr.qld.gov.au/Travel-and-transport/Rail/Level-crossings/ALCAM.aspx)
- Australian Pipeline Industry Association Ltd., October 2013, *Code of Environmental Practice, Onshore Pipelines*, [http://www.apga.org.au/wp-content/uploads/2009/10/131014\\_APGACoEP\\_2013\\_Final.pdf](http://www.apga.org.au/wp-content/uploads/2009/10/131014_APGACoEP_2013_Final.pdf)
- Business and Industry Portal, 2014, *Key resource areas in Queensland*, Queensland Government, Brisbane, <https://www.business.qld.gov.au/industry/mining/quarries/key-resource-areas>
- Business and industry portal, 2015, *Mining and resources*, Queensland Government, Brisbane, <https://www.business.qld.gov.au/industry/mining>
- Commonwealth of Australia, 2008, *National framework and guidance for describing the ecological character of Australian Ramsar wetlands*, Australian Government, Canberra, <http://www.environment.gov.au/system/files/resources/6d7408dc-2519-4294-9820-f7b2284816dd/files/module-2-framework.pdf>
- Commonwealth of Australia 2013, *Information Guidelines for Proposals Relating to the Development of Coal Seam Gas and Large Coal Mines where there is a Significant Impact on Water Resources*, Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development, Canberra, [www.environment.gov.au/coal-seam-gas-mining/publications.html](http://www.environment.gov.au/coal-seam-gas-mining/publications.html)
- Commonwealth of Australia, 2013, *Matters of National Environmental Significance – Significant impact guidelines 1.1 Environment Protection and Biodiversity Conservation Act 1999*, Canberra, [http://www.environment.gov.au/system/files/resources/42f84df4-720b-4dcf-b262-48679a3aba58/files/nese-guidelines\\_1.pdf](http://www.environment.gov.au/system/files/resources/42f84df4-720b-4dcf-b262-48679a3aba58/files/nese-guidelines_1.pdf)
- Department of Agriculture, Fisheries and Forestry, 2014, *DAFF Environmental Impact Assessment Companion Guide*, Queensland Government, Brisbane, <https://www.daff.qld.gov.au/environment/environmental-impact-assessment-companion-guide>
- Department of Agriculture, Fisheries and Forestry, 2014, *Waterway Barrier Works Development Approvals, Queensland Government*, Brisbane, <https://www.daff.qld.gov.au/fisheries/habitats/fisheries-development/self-assessable-codes>
- Department of Environment and Heritage Protection 2016, *Manual for assessing consequence categories and hydraulic performance of structures*, March 2016, Queensland Government, Brisbane, <http://www.ehp.qld.gov.au/assets/documents/reoffsgulation/era-mn-assessing-consequence-hydraulic-performance.pdf>
- Department of Environment and Heritage Protection, 2014, *Information guideline for an environmental impact statement information guideline for an environmental impact statement*, Queensland Government, Brisbane, <http://www.ehp.qld.gov.au/management/impact-assessment/eis-processes/eis-tor-support-guidelines.html>
- Department of Environment and Heritage Protection, 2014, *Links to a range of guidelines and manuals in regards to mining and the EIS process*, Queensland Government, Brisbane, e.g.:
- <http://www.ehp.qld.gov.au/land/mining/guidelines.html>;
  - <http://www.ehp.qld.gov.au/licences-permits/guidelines.html>
  - [http://www.ehp.qld.gov.au/management/impact-assessment/environmental\\_impact\\_assessment\\_guidelines.html](http://www.ehp.qld.gov.au/management/impact-assessment/environmental_impact_assessment_guidelines.html)
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## Appendix 2 Matters of national environmental significance (critical matter)

### Terms of reference for *Environment Protection and Biodiversity Conservation Act 1999* requirements<sup>29</sup>

The proposed project was referred on 5 October 2016 to the Commonwealth Department of the Environment (EPBC 2015/7538). On 18 November 2016, the Minister for the Environment determined the proposed project to be a controlled action under the Commonwealth's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The controlling provisions are:

- listed threatened species and communities (sections 18 and 18A)
- a water resource, in relation to coal seam gas development and large coal mining development (section 24D & 24E)

The project will be assessed under the bilateral agreement between the Commonwealth and the State of Queensland using the EIS prepared under the EP Act.

#### General content

The following Terms of Reference (TOR) should be addressed by the proponent in a stand-alone section that primarily focuses on the matters of national environmental significance (MNES) listed above. This section (henceforth called the 'MNES section') should contain sufficient information to be read alone with reference to technical data or supplementary reports where appropriate. Any detailed technical information to support the text in the MNES section should be included as appendices to the draft Environmental Impact Statement (EIS).

If it is necessary to make use of material that is considered by the proponent to be of a confidential nature, the proponent should consult with the Department of the Environment and Energy on the preferred presentation of that material, before submitting it for approval for publication.

The MNES section should take into consideration the EPBC Act Significant Impact Guidelines that can be downloaded from the following web site: <http://www.environment.gov.au/epbc/guidelines-policies.html>.

The proponent should ensure that the MNES section assesses compliance of the action with the principles of Ecologically Sustainable Development as set out in the EPBC Act, and the objects of the Act at Attachment 1. A copy of Schedule 4 of the EPBC Regulations, Matters to be addressed by draft public environment report and environmental impact statement is at Attachment 2.

#### Style

The MNES section should be written so that any conclusions reached can be independently assessed. To this end all sources must be appropriately referenced using the Harvard standard. The reference list should include the address of any Internet "web" pages used as data sources.

Maps, diagrams and other illustrative material should be included where appropriate. The MNES section should be produced on A4 size paper capable of being photocopied, with maps and diagrams on A4 or A3 size and in colour where possible.

The proponent should consider the format and style of the document appropriate for publication on the Internet. The capacity of the website to store data and display the material may have some bearing on how the document is constructed.

#### Background and description of the action

The MNES section must include background to the action and describe in detail all components of the action for example (but not limited to), the construction, operation and (if relevant) decommissioning components of the action. This must include the precise location of all works to be undertaken (including associated offsite works and infrastructure), structures to be built or elements of the action that may have impacts on MNES.

The description of the action must also include details on how the works are to be undertaken (including stages of development and their timing) and design parameters for those aspects of the structures or elements of the action that may have relevant impacts.

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<sup>29</sup> provided by the Commonwealth Department of the Environment and Energy

The MNES section must include how the action relates to any other actions (of which the proponent should reasonably be aware) that have been, or are being, taken or that have been approved in the region affected by the action. A map showing relevant regional projects must be provided.

The MNES section must provide details on the current status of the action as well as any feasible alternatives to the action to the extent reasonably practicable, including:

- if relevant, the alternative of taking no action;
- a comparative description of the impacts of each alternative on the MNES protected by controlling provisions of Part 3 of the EPBC Act for the action; and
- sufficient detail to make clear why any alternative is preferred to another.

Short, medium and long-term advantages and disadvantages of the options should also be discussed.

Should the proponent wish to conduct development and associated offsets in stages, the EIS must include a description of stages, using maps where appropriate, and discuss any risks and or benefits of staging the action.

### **Description of the environment including MNES**

The MNES section must provide a description of the environment of the proposal site and the surrounding areas that may be affected by the action. It is recommended that this include the following information:

- Listed threatened and migratory species and ecological communities (including suitable habitat) that are likely to be present in the vicinity of the site, including details of the scope, timing (survey season/s) and methodology for studies or surveys used to provide information on the listed species/community/habitat at the site (and in areas that may be impacted by the project). Include details of:
  - how best practice survey guidelines are applied; and
  - how the surveys are consistent with (or a justification of divergence from) published Australian Government guidelines and policy statements

### **Relevant impacts**

The MNES section must include a description of all of the relevant impacts of the action. Relevant impacts are impacts that the action will have or is likely to have on MNES. Impacts during both the construction, operational and (if relevant) the decommissioning phases of the project should be addressed, and the following information provided:

- a description of the relevant impacts (direct, indirect and consequential) of the action on MNES taking account of any relevant approved Conservation Advices for listed threatened species and communities as well as any agreements or plans that cover impacts on MNES including (but not limited to): threat abatement plans for processes that threaten species; wildlife conservation plans, management plans for Ramsar wetlands, strategic assessments, etc.);
- a detailed analysis of the nature and extent of the likely direct, indirect and consequential impacts relevant to MNES, including likely short-term and long-term impacts – refer to the Significant Impact Guidelines 1.1 - Matters of National Environmental Significance for guidance on the various types of impact that need to be considered;
- a statement whether any relevant impacts are likely to be unknown, unpredictable or irreversible;
- any technical data and other information used or needed to make a detailed assessment of the relevant impacts;
- an explanation of how Indigenous stakeholders' views of the action's impacts to biodiversity and cultural heritage have been sought and considered in the assessment, including where relevant, how guidelines published by the Commonwealth in relation to consulting with Indigenous peoples for proposed actions that are under assessment have been considered and applied; and
- where the proposal is a coal seam gas development or large coal mining development and likely to significantly impact on a water resource refer to:
  - the Independent Expert Scientific Committee's (IESC) Information Guidelines for Proposals Relating to the Development of Coal Seam Gas and Large Coal Mines where there is a Significant Impact on Water Resources.
  - the Significant Impact Guidelines 1.3: Coal seam gas and large coal mining developments - impacts on water resources.

The MNES section should also provide a detailed assessment of any likely impact that this proposed action may facilitate on the following (at the local, regional, state, national and international scale):

- listed threatened species and ecological communities; and

- a water resource, in relation to coal seam gas development and large coal mining development.

The MNES section should identify and address cumulative impacts, where potential project impacts are in addition to existing impacts of other activities (including known potential future expansions or developments by the proponent and other proponents in the region and vicinity). The MNES section should also address the potential cumulative impact of the proposal on ecosystem resilience. The cumulative effects of climate change impacts on the environment must also be considered in the assessment of ecosystem resilience.

## **Proposed avoidance and mitigation measures**

### **Avoidance and Mitigation Measures**

The MNES section must provide information on proposed avoidance and mitigation measures to manage the relevant impacts of the action on MNES.

The information provided must discuss how the proposed action is not inconsistent with:

- any relevant threat abatement plan for listed threatened species and communities;
- any relevant recovery plan for listed threatened species and communities; and
- relevant conventions and agreements of which a migratory species is listed, including the Bonn Convention, CAMBA, JAMBA and agreements relevant to the conservation of the species.

The MNES section must include, and substantiate, specific and detailed descriptions of the proposed avoidance and mitigation measures, based on best available practices and must include the following elements:

- A consolidated list of avoidance and mitigation measures proposed to be undertaken to prevent or minimise the relevant impacts of the action on MNES, including:
  - a description of proposed avoidance and mitigation measures to deal with relevant impacts of the action, including mitigation measures proposed to be taken by State/Territory governments, local governments or the proponent;
  - assessment of the expected or predicted effectiveness of the mitigation measures, including the scale and intensity of impacts of the proposed action and the on-ground benefits to be gained through each of these measures;
  - a description of the outcomes that the avoidance and mitigation measures will achieve; and
  - any statutory or policy basis for the mitigation measures.
- A detailed outline of a Construction Environmental Management Plan (CEMP) for the continuing management, mitigation and monitoring of relevant impacts of the action on MNES. The CEMP must be consistent with the Department's Environmental Management Plan Guidelines (2014), and must include:
  - objectives;
  - risk assessment;
  - environmental management activities and mitigation measures;
  - the timing of actions;
  - a monitoring program, which must include:
    - performance indicators (clear and concise criteria against which achievement of outcomes are to be measured), which are capable of accurate and reliable measurement;
    - outcomes (time bound outcomes as measured by performance indicators), which might include milestones (interim outcomes);
    - monitoring requirements (timing and frequency of monitoring to detect changes in the performance indicators, to determine if outcomes are being achieved, and to inform adaptive management); and
    - trigger values for corrective actions.
- Potential corrective actions to be implemented if trigger values are reached, and how environmental incidents and emergencies will be managed.
- Roles and responsibilities (clearly stating who is responsible for activities); and
- Auditing and review mechanisms.

## Residual impacts/offsets

The MNES section must provide details of:

- residual significant impacts on MNES that are likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account;
- where residual significant impacts are likely to occur, the reasons why the avoidance or mitigation of these significant impacts is not expected to be achieved.

The MNES section must include details of an offset package proposed to be implemented to compensate for the residual significant impact of the project, as well as an analysis about how the offset(s) meets the requirements in the Department's Environment Protect and Biodiversity Conservation Act 1999 Environmental Offsets Policy October 2012 (EPBC Act Offset Policy).

The offset package can comprise a combination of direct offsets and other compensatory measures, so long as it meets the requirements of the EPBC Act Offset Policy. Offsets should align with conservation priorities for the impacted protected matter and be tailored specifically to the attribute of the protected matter that is impacted in order to deliver a conservation gain.

Offsets should compensate for an impact for the full duration of the impact (i.e. should impacts be in perpetuity the offsets should also be in perpetuity).

Offsets must directly contribute to the ongoing viability of the MNES impacted by the project and deliver an overall conservation outcome that improves or maintains the viability of the MNES as compared to what is likely to have occurred under the status quo, that is, if neither the action nor the offset had taken place.

Offsets required by the State can be applied if the offsets meet the Department's EPBC Act Offset Policy. The outcomes of the offset strategy need to be specific, measurable and achievable, and should be based on robust baseline data.

Note: offsets do not make an unacceptable impact acceptable and do not reduce the likely impacts of a proposed action. Instead, offsets compensate for any residual significant impact.

The MNES section must include an offset strategy to compensate for significant residual impacts on MNES. The offsets strategy must include:

- objectives;
- quantity of impacts which are being offset;
- the type of offsets proposed (direct/indirect);
- the location (including a geo-referenced map) and suitability of proposed direct offsets;
- current land tenure of any proposed offset and the method of securing enduring protection of the offset site and managing the offset for the life of the impact;
- how any proposed staging of the overall development will impact the delivery of offsets;
- specific environmental outcomes to be achieved, and reasoning for these in reference to relevant statutory recovery plans, conservation advices and threat abatement plans;
- a completed 'offsets guide'. All figures used to determine the suitability of offsets including habitat quality scores at the project site must be derived using a suitably robust and repeatable framework. Details about each framework must also be provided;
- risk assessment;
- environmental management activities and mitigation measures or customize, by referring to specific measures as follows, including the timing of actions;
- a monitoring program, which must include:
  - performance indicators (clear and concise criteria against which achievement of outcomes are to be measured), which are capable of accurate and reliable measurement;
  - outcomes (time bound outcomes as measured by performance indicators), which might include milestones (interim outcomes);
  - monitoring requirements (timing and frequency of monitoring to detect changes in the performance indicators, to determine if outcomes are being achieved, and to inform adaptive management); and
  - trigger values for corrective actions;
- potential corrective actions to be implemented if trigger values are reached, and how environmental incidents and emergencies will be managed;
- roles and responsibilities (clearly stating who is responsible for activities);
- auditing and review mechanisms; and

- an analysis of how the offset package meets the requirements of the EPBC Act Offsets Policy.

### **Environmental record of person(s) proposing to take the action**

The information provided must include details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against:

- the person proposing to take the action;
- for an action for which a person has applied for a permit, the person making the application; and
- if the person proposing to take the action is a corporation, details of the corporation's environmental policy and planning framework must also be included.

### **Economic and social matters**

The economic and social impacts of the action, both positive and negative, must be analysed. Matters of interest may include:

- details of any public consultation activities undertaken, and their outcomes;
- details of any consultation with Indigenous stakeholders;
- projected economic costs and benefits of the project, including the basis for their estimation through cost/benefit analysis or similar studies;
- employment opportunities expected to be generated by the project (including construction and operational phases).

Economic and social impacts should be considered at the local, regional and national levels. Details of the relevant cost and benefits of alternative options to the proposed action should also be included. Identification of affected parties is required, including a statement mentioning any communities that may be affected and describing their views.

Documentation must be provided substantiating how estimated benefit/cost figures have been derived.

### **Information sources**

For information given in the MNES section, the proponent must state:

- the source of the information;
- how recent the information is;
- how the reliability of the information was tested;
- what uncertainties (if any) are in the information; and
- what guidelines, plans and/or policies did you consider.

### **Conclusion**

An overall conclusion as to the environmental acceptability of the proposal on each MNES should be provided, including:

- a discussion on compliance with the requirements of the EPBC Act, including the objects of the EPBC Act, the principles of ecologically sustainable development and the precautionary principle;
- reasons justifying undertaking the proposal in the manner proposed, including the acceptability of the avoidance and mitigation measures; and
- if relevant, a discussion of residual impacts and any offsets and compensatory measures proposed or required for significant residual impacts on MNES, and the relative degree of compensation and acceptability.

## Attachment 1

### The objects and principles of the EPBC Act; sections 3 and 3A

#### 3 Objects of the Act

- (a) to provide for the protection of the environment, especially those aspects of the environment that are matters of national environmental significance;
- (b) to promote ecologically sustainable development through the conservation and ecologically sustainable use of natural resources;
- (c) to promote the conservation of biodiversity;
- (d) to promote a co-operative approach to the protection and management of the environment involving governments, the community, land-holders and indigenous peoples;
- (e) to assist in the co-operative implementation of Australia's international environmental responsibilities;
- (f) to recognise the role of indigenous people in the conservation and ecologically sustainable use of Australia's biodiversity; and
- (g) to promote the use of indigenous peoples' knowledge of biodiversity with the involvement of, and in co-operation with, the owners of the knowledge.

#### 3A Principles of ecologically sustainable development

The following principles are principles of ecologically sustainable development.

- (a) Decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations.
- (b) If there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.
- (c) The principle of inter-generational equity – that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations.
- (d) The conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making.
- (e) Improved valuation, pricing and incentive mechanisms should be promoted.

## Attachment 2

### Matters that must be addressed in a PER and EIS (Schedule 4 of the EPBC Regulations 2000)

#### 1 General information

The background of the action including:

- (a) the title of the action;
- (b) the full name and postal address of the designated proponent;
- (c) a clear outline of the objective of the action;
- (d) the location of the action;
- (e) the background to the development of the action;
- (f) how the action relates to any other actions (of which the proponent should reasonably be aware) that have been, or are being, taken or that have been approved in the region affected by the action;
- (g) the current status of the action; and
- (h) the consequences of not proceeding with the action.

#### 2 Description

A description of the action, including:

- (a) all the components of the action;
- (b) the precise location of any works to be undertaken, structures to be built or elements of the action that may have relevant impacts;
- (c) how the works are to be undertaken and design parameters for those aspects of the structures or elements of the action that may have relevant impacts;
- (d) relevant impacts of the action;
- (e) proposed safeguards and mitigation measures to deal with relevant impacts of the action;

- (f) any other requirements for approval or conditions that apply, or that the proponent reasonably believes are likely to apply, to the proposed action;
- (g) to the extent reasonably practicable, any feasible alternatives to the action, including:
  - i. if relevant, the alternative of taking no action;
  - ii. a comparative description of the impacts of each alternative on the matters protected by the controlling provisions for the action; and
  - iii. sufficient detail to make clear why any alternative is preferred to another;
- (h) any consultation about the action, including:
  - i. any consultation that has already taken place;
  - ii. proposed consultation about relevant impacts of the action; and
  - iii. if there has been consultation about the proposed action—any documented response to, or result of, the consultation; and
- (i) identification of affected parties, including a statement mentioning any communities that may be affected and describing their views.

### **3 Relevant impacts**

Information given under paragraph 2.01(d) must include

- (a) a description of the relevant impacts of the action;
- (b) a detailed assessment of the nature and extent of the likely short term and long term relevant impacts;
- (c) a statement whether any relevant impacts are likely to be unknown, unpredictable or irreversible;
- (d) analysis of the significance of the relevant impacts; and
- (e) any technical data and other information used or needed to make a detailed assessment of the relevant impacts.

### **4 Proposed safeguards and mitigation measures**

Information given under paragraph 2.01(e) must include:

- (a) a description, and an assessment of the expected or predicted effectiveness of, the mitigation measures;
- (b) any statutory or policy basis for the mitigation measures;
- (c) the cost of the mitigation measures;
- (d) an outline of an environmental management plan that sets out the framework for continuing management, mitigation and monitoring programs for the relevant impacts of the action, including any provisions for independent environmental auditing;
- (e) the name of the agency responsible for endorsing or approving each mitigation measure or monitoring program; and
- (f) a consolidated list of mitigation measures proposed to be undertaken to prevent, minimise or compensate for the relevant impacts of the action, including mitigation measures proposed to be taken by State governments, local governments or the proponent.

### **5 Other Approvals and Conditions**

Information given under paragraph 2.01(f) must include:

- (a) details of any local or State government planning scheme, or plan or policy under any local or State government planning system that deals with the proposed action, including:
  - i. what environmental assessment of the proposed action has been, or is being carried out under the scheme, plan or policy; and
  - ii. how the scheme provides for the prevention, minimisation and management of any relevant impacts;
- (b) a description of any approval that has been obtained from a State, Territory or Commonwealth agency or authority (other than an approval under the Act), including any conditions that apply to the action;
- (c) a statement identifying any additional approval that is required; and
- (d) a description of the monitoring, enforcement and review procedures that apply, or are proposed to apply, to the action.

### **6 Environmental record of person proposing to take the action**

Details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against:



- (a) the person proposing to take the action; and
- (b) for an action for which a person has applied for a permit, the person making the application.

If the person proposing to take the action is a corporation—details of the corporation’s environmental policy and planning framework.

## **7 Information sources**

For information given the PER/EIS must state:

- (a) the source of the information; and
- (b) how recent the information is; and
- (c) how the reliability of the information was tested; and
- (d) what uncertainties (if any) are in the information.

## Appendix 3 Matters to be addressed in the social and economic assessment

### Information requirements – social

1. The SIA should include:
  - a) a profile of key stakeholders
  - b) a social baseline study of potentially impacted communities within the SIA study area
  - c) an overview of state government legislation and policies and priorities which complement the mitigation measures for the project's social impacts
  - d) an explanation of sources used to gather information and analysis methods used. Discuss rationale for both primary and secondary data
  - e) a description of how the potentially impacted communities and affected stakeholders/other interested were engaged and consulted with during the development of the SIA
  - f) identification of potential social impacts and their likely significance, including duration
  - g) the proponent's proposed enhancement and mitigation/management measures
  - h) details of the proponent's proposed monitoring and reporting framework

### *Social impact assessment study area*

2. Define the project's SIA study area (including the local, district, regional and state level as relevant), taking into account the:
  - a) potential for social impacts to occur
  - b) location of other relevant projects (existing or proposed)
  - c) location and types of physical and social infrastructure, settlements and land-use patterns
  - d) social values that might be affected by the project including integrity of social conditions, liveability, social harmony and wellbeing and sense of community
  - e) Indigenous social and cultural characteristics, such as native title rights and interests, and cultural heritage.

### *Social Baseline Study*

3. Undertake a targeted baseline study of the people residing within the project's SIA study area. This will provide a benchmark against which to identify the project's social issues, potential negative and positive social impacts, and the mitigation/management plans to address these impacts. The social baseline study should be based on qualitative, quantitative and participatory methods. It should be supplemented by community engagement processes and primary data collection, and should reference relevant data contained in local and state government publications, reports, plans, guidelines and documentation, including regional and community plans.

### *Community Engagement*

4. The baseline study, assessment of potential social impacts and development of appropriate mitigation measures and management plans should be informed by an inclusive and collaborative community and stakeholder engagement process. The engagement should commence at an early stage of the EIS process, and should include consultation with a broad range of stakeholder groups including affected landholders, local residents, community groups, Traditional Owner / Aboriginal and Torres Strait Islander representatives, state and local government agencies, and non-government organisations.
5. The community and stakeholder engagement process should be adequately described and documented in the EIS report. This should include details such as stakeholders consulted and how and when they were consulted, principles and processes adopted, overview of the consultation program and key events, stakeholder feedback and issues raised (including the means by which these have been or will be addressed), and details of any negotiations or agreements required for impact mitigation and management.

## Potential impacts and mitigation – social

### *Impact assessment*

6. Assess and describe the type, level and significance of the project's social impacts (both negative and positive), based on the outcomes of the community engagement, social baseline study and impact analysis processes. This should include sufficient data to enable affected local and state authorities to make informed decisions about the project's effects. The potential social impacts will be identified by considering the potential changes to key aspects included in the social baseline study as a result of the project.
7. Impact assessment should include an assessment of the potential scope and significance of impacts at the local and regional level, considering factors such as population and demographic changes, workforce, lifestyles and amenity, community values, housing, local and regional planning outcomes, social infrastructure, and the health and social/cultural wellbeing of families and communities.
8. The impact assessment should also evaluate and discuss the potential cumulative social impacts resulting from the proposed project in combination with other existing or projects in advanced planning stages within the SIA study area. Key issues assessed should include:
  - a) population
  - b) workforce (construction and operation)
  - c) workforce accommodation
  - d) local and regional housing markets
  - e) use of and access to community infrastructure, services and facilities (including social and health services and facilities)
  - f) any existing legacy issue(s) or cumulative impact(s) which is/are not attributed to the present project proposal or advanced planned projects
9. The impact assessment should include:
  - (a) the impacts identified by the SIA process
  - (b) impacted stakeholders
  - (c) impacts, mitigation and management measures timing/timeframes
  - (d) description of the mitigation and management measures
  - (e) defined outcomes, and the performance indicators and targets to achieve the outcomes
  - (f) monitoring and reporting framework
  - (g) residual impacts (after mitigation/management) and how these will be addressed

### *Management plans*

10. Management plans for the following are to be provided as part of the SIA:
  - a) community and stakeholder engagement
  - b) workforce management
  - c) housing and accommodation
  - d) local business and industry content
  - e) health and community wellbeing

## Information requirements – economic

11. The analysis should include:
  - a) direct costs and benefits that may arise from the project, including the assumptions used to estimate these costs and benefits
  - b) quantified indirect costs and benefits including, but not limited to, the economic, social, health or environmental impacts of the project, along with the assumptions used to estimate these costs and benefits

- c) well-described costs and benefits including, but not limited to, the economic, social, health or environmental impacts of the project, along with the assumptions used to estimate these costs and benefits
12. Describe the local and regional economies likely to be impacted by the project and identify the relevant stakeholders.
13. Proponents should use a robust method/s to quantify the direct and indirect economic impacts on local, regional and state economies arising from each stage of the project, and estimate the change in key indicators including:
- a) gross regional product (GRP)
  - b) gross state product (GSP)
  - c) employment outcomes
  - d) value added to the economy by the project by sector or industry.
14. The economic analysis should consider but not be limited to:
- a) the significance of the proposal in the local, regional and state economic context
  - b) labour demand, including the ability for labour to be drawn from the existing local workforce, and the potential effects this may have on local businesses
  - c) the cost of any additional infrastructure to all levels of government
  - d) the potential impacts the project may have on relevant prices, which might include wages, housing market costs, input costs and/or household goods and services
  - e) local, regional, and state business and supply chain opportunities
  - f) potential benefits and costs along with relevant positive and negative externalities should be valued where reasonable; otherwise they should be described using quantitative and qualitative considerations. The results of this assessment should be presented as net present values
  - g) the demand for the project and coal in the local region and international markets considering market pressures including, but not limited to, regional and market resource demands, commodity prices and resource pricing cycles
  - h) any significant economic benefits and costs arising following the end of project operations and decommissioning of the project including, but not limited to, the rehabilitation of the mine site, local services and transport infrastructure.

## Approved by:

Chris Loveday

2 June 2017

### Signature

Chris Loveday  
Director, Impact Assessment and Operational Support  
Department of Environment and Heritage Protection

### Date

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